

CLAIMS

1. A peptide dimer wherein two peptide monomers each consisting of 7-30 amino acids including at least one cysteine residue and being capable of producing a tumor antigen peptide having CTL-inducing activity are bound each other through a disulfide bond(s).

5 2. The peptide dimer according to claim 1, which can produce a tumor antigen peptide having a CTL-inducing activity.

10 3. The peptide dimer according to claim 1 or 2, wherein two peptide monomers are bound through one or two disulfide bonds.

4. The peptide dimer according to any one of claims 1 to 3, wherein the peptide monomers are derived from WT1 that is an expression product of tumor suppressor gene.

15 5. The peptide dimer according to any one of claims 1 to 4, wherein the peptide monomer is as follows:

Cys Xaa Thr Trp Asn Gln Met Asn Xaa (SEQ ID NO: 72)

wherein Xaa at position 2 is an amino acid residue selected from Tyr, Phe, Met and Trp; and Xaa at position 9 is an amino acid residue selected from Phe, Leu, Ile, Trp and Met.

20 6. The peptide dimer according to any one of claims 1 to 4, wherein the peptide monomer is selected from the following peptides.

Cys Met Thr Trp Asn Gln Met Asn Leu (SEQ ID NO: 11)

Asp Phe Lys Asp Cys Glu Arg Arg Phe (SEQ ID NO: 18)

Ala Tyr Pro Gly Cys Asn Lys Arg Tyr (SEQ ID NO: 19)

25 Asn Ala Pro Tyr Leu Pro Ser Cys Leu (SEQ ID NO: 20)

Gly Cys Asn Lys Arg Tyr Phe Lys Leu (SEQ ID NO: 21)

Arg Trp Pro Ser Cys Gln Lys Lys Phe (SEQ ID NO: 22)

Asp Ser Cys Thr Gly Ser Gln Ala Leu (SEQ ID NO: 23)

Cys Tyr Thr Trp Asn Gln Met Asn Leu (SEQ ID NO: 44)

30 7. A pharmaceutical composition comprising a peptide dimer

according to any one of claims 1 to 6 together with a pharmaceutically acceptable carrier.

8. The pharmaceutical composition according to claim 7 which is used as a cancer vaccine.

5 9. Use of a peptide dimer according to any one of claims 1 to 6 in the manufacture of a cancer vaccine.

10 10. A method of treating or preventing cancer, which comprises administering a therapeutically effective amount of a peptide dimer according to any one of claims 1 to 6 to a WT1-positive patient in need thereof.